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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,069	03/22/2004	James J. Murphy	TRM TR000006CON	1515
32047	7590	12/15/2004	EXAMINER	
GROSSMAN, TUCKER, PERREAULT & PFLEGER, PLLC			ZEC, FILIP	
55 SOUTH COMMERICAL STREET			ART UNIT	
MANCHESTER, NH 03101			PAPER NUMBER	

3744

DATE MAILED: 12/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/806,069	<b>Applicant(s)</b> MURPHY, JAMES J.	
	<b>Examiner</b> Filip Zec	<b>Art Unit</b> 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>8/4/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,196,003 to Macias et al., in view of U.S. Patent 5,232,516 to Hed. Macias discloses applicant's basic inventive concept, a thermoelectric heat exchanger unit (1), comprising a conduit (2, FIG. 1) having a series of baffles (64, FIG. 7A) which define successive chambers (39) which have alternate openings at the top and bottom such that the air can flow between said baffles in a serpentine pattern (67, FIG. 8B), an air inlet (19, FIG. 7A) and air outlet (21, FIG. 7A) and a controller (7, FIG. 1), substantially as claimed with the exception of specifying the exact location of the thermoelectric devices inside of the system and their power source. Hed shows thermoelectric devices (20, FIG. 1), located in such manner that the cold plane (14, FIG. 1) and the hot plane (15, FIG. 1) are at the opposite ends of the chamber, to be old in the thermoelectric art. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made from the teaching of Hed to modify the system of Macias, by having thermoelectric devices, located in such manner that the cold plane (14, FIG. 1) and the hot plane (15, FIG. 1) are at the opposite ends of the chamber, in order to improve the flow of the fluid from inlet to outlet. A flow of the heat exchanging fluid will be induced by density differences once the thermoelectric couples are powered because, as the fluid is cooled, it will

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increase in density and tend to sink toward the cold plates, and as the fluid is heated it will decrease in density and thus tend to rise toward the warm heat exchanger (col 7, lines 17-24).

3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,196,003 to Macias et al., in view of U.S. Patent 5,232,516 to Hed, as applied to claim 1 above, and further in view of U.S. Patent 5,201,182 to Grignon et al. Macias in view of Hed discloses applicant's basic inventive concept, a thermoelectric heat exchanger containing a fluid duct providing a serpentine fluid flow, substantially as claimed with the exception of stating the use of RAM air to supplement the flow of air. Grignon shows tapping RAM air for cooling in a moving vehicle (col 1, lines 54-68; col 2, lines 1-3) to be old in the air-conditioning art. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made from the teaching of Grignon to modify the system of Macias in view of Hed, by tapping into RAM air in order to achieve better cooling efficiency of the system (col 2, lines 1-3).

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 6,324,058 to Hsiao teaches a heat-dissipating apparatus for an integrated circuit device.

U.S. Patent 5,931,002 to Nagashima teaches a cooling air duct and cooling apparatus.

U.S. Patent 5,456,081 to Chrysler, Gregory M. et al. teaches a thermoelectric cooling assembly with optimized fin structure for improved thermal performance and manufacturability.

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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Filip Zec whose telephone number is (571) 272-4815. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Denise Esquivel can be reached on (571) 272-4808. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Filip Zec  
Examiner  
Art Unit 3744

FZ

  
DENISE L. ESQUIVEL  
SUPERVISORY PATENT EXAMINER  
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